

**REMARKS**

Applicant thanks the Examiner for considering the references cited with the Information Disclosure Statement filed on March 8, 2006.

**Claim Rejections**

Claims 1, 2, 11 and 12 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Pat. Pub. No. 2001/0038666 to Mesecher *et al.* ("Mesecher"). Applicant traverses this rejection.

Mesecher does not disclose or suggest at least wherein each of said antenna weight control means controls the weighting factors for each of said weighting factor multiplying means by using an N-order, where N is greater than or equal to two, correlation matrix as an adaptive update algorithm, wherein there are N antenna elements, as recited in claim 1. Mesecher, as relied upon by the Examiner, discloses vector correlators used to despread multipath components of the received pilot signal prior to sending the despread signals to the adaptive algorithm block (paragraph 54). As illustrated in Fig. 21, Mesecher's vector correlators 504, 508 are applied separately from the adaptive algorithm block 506, further indicating that, contrary to the Examiner's allegations, the vector correlators are not a correlation matrix used as an adaptive update algorithm, as set forth in claim 1.

Further, Mesecher does not disclose or suggest at least wherein the incoming direction of the path is obtained from the N-order, where N is greater than or equal to two, correlation matrix as an adaptive update algorithm, as recited in claim 1. Mesecher discloses, in Figs. 5, 7 and 10; a pilot signal receiving circuit in which each of the pilot signals is received by a single antenna 80.

The pilot signal receiving circuit comprises despreading devices (Pilot Rakes) 82-86 which despread the different pilot signals from the transmission antennas 48-52 using replicas of the corresponding pilot signal's spreading codes to obtain recovered pilot signals (paragraphs 0035, 0038 and 0041). The pilot signal receiving circuit in each of Figs. 5, 7 and 10 further comprises weighting devices 88-92 for weighting the recovered pilot signals, a combiner 94 for combining the weighted recovered pilot signals into a combined signal, and a weight adjustment device for adjusting weights for the weighting device using an adaptive algorithm (paragraphs 0035, 0038 and 0040).

Thus, in Mesecher, channel fluctuations of the recovered pilot signals are weighted at the weighting devices 88-92 into the weighted recovered pilot signals which are combined into the combined signal. In this event, the weights of the weighting devices are obtained by using the adaptive algorithm.

On the other hand, Applicant's invention obtains the incoming direction of the path by using an N-order, where N is greater than or equal to two, correlation matrix as an adaptive update algorithm, where there are N antennas elements, rather than obtaining the weights for the channel fluctuation.

Mesecher still also discloses, in Fig. 18, another pilot signal receiving circuit in which each of the pilot signals is received by a plurality of antennas 48-52. The pilot signal receiving circuit in Fig. 18 comprises Pilot Rakes 406-410 by which the different pilot signals are filtered to obtain recovered pilot signals. The pilot signal receiving circuit in 18 further comprises weighting devices 412-416 for weighting the recovered pilot signals, a combiner 418 for

combining the weighted recovered pilot signals into a combined signal, and a weight adjustment device 422 for adjusting weights of the weighting devices using an adaptive algorithm (paragraph 0050).

Thus, in Fig. 18 of Mesecher, channel fluctuations of the recovered pilot signals are weighted at the weighting devices 412-416 into the weighted recovered pilot signals which are combined into the combined signal. In this event, the weights of the weighting devices are obtained by using the adaptive algorithm.

As described above, Applicant's invention obtains the incoming direction of the path by using an N-order correlation matrix as an adaptive update algorithm, where there are N antennas elements, rather than obtaining the weights for the channel fluctuation.

For at least the above reasons, claim 1 is not anticipated by Mesecher. Claim 11 contains features similar to the features recited in claim 1 and is therefore patentable over Mesecher for similar reasons. Claims 2 and 12, which depend from one of claims 1 and 11, are patentable at least by virtue of their dependencies.

Claims 4, 8, 14 and 18 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Mesecher in view of U.S. Patent No. 6,289,062 to Wang et al. ("Wang"). Applicant traverses this rejection.

The Examiner's attempted combination of claims 4, 8, 14 and 18 does not disclose or suggest the claimed invention. As established above, Mesecher does not disclose or suggest at least wherein each of said antenna weight control means controls the weighting factors for each of said weighting factor multiplying means by using an N-order, where N is greater than or equal

to two, correlation matrix as an adaptive update algorithm, wherein there are N antenna elements, as recited in claims 4, 8, 14 and 18 by virtue of their dependencies on claims 1 and 11. The Examiner relies on Wang to disclose a detector for producing a binary output and a switching means. Wang does not, however, cure at least the above-noted deficiencies of Mesecher.

Even if one of ordinary skill in the art at the time of the invention had been motivated to combine the references, the attempted combination would not result in the invention as set forth and arranged in the claims.

For at least the above reasons, claims 4, 8, 14 and 18 are patentable over the Examiner's attempted combination of claims 4, 8, 14 and 18.

### **Conclusion**

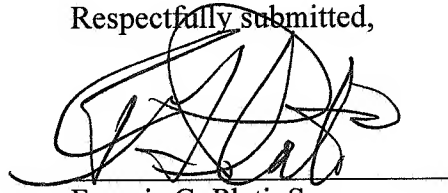
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. §1.111  
U.S. Appln. No. 09/987,555

Atty. Docket No. Q67299

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Francis G. Plati, Sr.', written over a horizontal line.

Francis G. Plati, Sr.  
Registration No. 59,153

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: October 17, 2006